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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
RAMAKRISHNAIAH, MELUR	
ART UNIT	**PAPER NUMBER**
2614	

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/533,398	TAYLOR ET AL.	
	Examiner	Art Unit	
	Melur Ramakrishnaiah	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,7-12,18-20,25-30,36 and 39-53* is/are rejected.

7)☒ Claim(s) *3-6,13-17,21-24,31-35,37 and 38* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9-30-04, 11-28-03.* 8-23-02, 7-10-02, 5-16-01, 4-18-08
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 10, 18, 19, 28, 36, 39, 43, are rejected under 35 U.S.C. 103(a) as being unpatentable over Natori (EP 0356105) in view of Riegel et al. (DE 019528425C1, hereinafter Riegel).

Regarding claim 1, Natori discloses image processing apparatus, comprising: an image data receiver (2, figs. 3, 5) for receiving image data recorded by plurality of cameras (11, 10, figs. 3, 5) showing movement of plurality of people (fig. 4), a speaker identifier (15, fig. 5) for determining which of the people is speaking (col. 1 lines 27- col. 2, line 1).

Regarding claim 18, Natori discloses image processing apparatus, comprising: an image data receiver (2, figs. 3, 5) for receiving image data recorded by plurality of cameras (11, 10, figs. 3, 5) showing the movements of plurality of people, a speaker identifier (15, fig. 5) for determining which of the people is speaking (col. 1 lines 27- col. 2, line 1).

Regarding claim 19, Natori discloses a method of processing image data recorded by a plurality of cameras showing the movement of plurality of people to select image data for storage, the method comprising: a speaker identification step of determining which of the people is speaking (col. 1 lines 27- col. 2, line 1).

Regarding claim 39, Natori discloses a method of processing image data recorded by a plurality of cameras showing the movement of plurality of people to select image data for storage, the method comprising: a speaker identification step of determining which of the people is speaking (col. 1 lines 27- col. 2, line 1).

Natori differs from claims 1, 18, 19, 39 in that he does not teach the following: determining at whom the speaker is looking, a position calculator for determining the position of the speaker and position of the person at whom the speaker is looking, and a camera selector for selecting image data from the received image on the basis of the determined positions of the speaker and person/object at whom the speaker is looking.

However, Riegel discloses automated stereoscopic camera selection arrangement which teaches the following: determining at whom the speaker (reads on observer) is looking, a position calculator for determining the position of the speaker and position of the person (reads on image on DIS, fig. 1) at whom the speaker is looking, and a camera selector for selecting image data from the received image on the basis of the determined positions of the speaker and person/object at whom the speaker is looking (see abstract; figs. 1-2; pages 6-13 of English translation).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Natori's system to provide for the following: determining at whom the speaker is looking, a position calculator for determining the position of the speaker and position of the person at whom the speaker is looking, and a camera selector for selecting image data from the received image on the basis of the determined positions of the speaker and person/object at whom the speaker is looking

as this arrangement would provide means for selecting the cameras to image the person/object observer is looking so that user can obtain information about the observed person/object for further use as taught by Riegel.

Regarding claim 36, Natori teaches the following: generating a signal conveying information defining image data selected in the camera selection step (see abstract).

Regarding claims 10 and 28, Notori teaches the following: speaker identifier (15, fig. 5) is arranged to receive speech data from a plurality of microphones each of which is allotted to a respective one of the people, and to determine which of the people is speaking on the basis of the microphone from which data is received (fig. 5 col. 5 lines 31-52).

Regarding claim 43, the combination of Notori and Riegel teaches the following: storing instructions for causing a programmable processing apparatus to become operable to perform a method of any of the claims 19 and 39 as shown above.

3. Claims 2, 7-8, 20, 25-26, are rejected under 35 U.S.C. 103(a) as being unpatentable over Natori in view of Riegel as applied to claim 1 and 19 above, and further in view of Anderson et al. (US PAT: 5,500,671, hereinafter Anderson).

Regarding claims 2, 20, the combination does not teach the following: camera selector is arranged to select image data in which both the speaker and the person at whom speaker is looking appear.

However, Anderson discloses a video conference system which teaches the following: camera selector (34, fig. 3) is arranged to select image data in which both the

speaker and the person at whom speaker is looking appear (col. 4 lines 1-13, col. 2 lines 65-67).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following: camera selector is arranged to select image data in which both the speaker and the person at whom speaker is looking appear as this arrangement would provide more realistic arrangement for video conferees during a video conference so that conferees would have eye contact during the conference as taught by Anderson.

Regarding claims 7-8 and 25-26, the combination does not teach the following: speech recipient identifier and the position calculator comprises an image processor for processing the image data from at least one of the cameras to determine whom the speaker is looking, the image processor is arranged to determine the position of each person and at whom each person is looking by processing image data from at least one camera.

However, Anderson teaches the following: speech recipient identifier and the position calculator comprises an image processor for processing the image data from at least one of the cameras to determine whom the speaker is looking, the image processor is arranged to determine the position of each person and at whom each person is looking by processing image data from at least one camera (fig. 6, col. 7, line 27 – col. 8, line 57).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following: speech

recipient identifier and the position calculator comprises an image processor for processing the image data from at least one of the cameras to determine whom the speaker is looking, the image processor is arranged to determine the position of each person and at whom each person is looking by processing image data from at least one camera as this arrangement would facilitate to identify speakers to whom they are speaking, thus promoting eye contact between the speakers.

4. Claims 9 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natori in view of Riegel and Anderson as applied to claims 7 and 25 above, and further in view of Mann (US PAT: 6,307,526, filed 10-15-1998).

Regarding claims 9 and 27, the combination does not teach the following: image processor is arranged to track the position and orientation of each person's head in three dimensions.

However, Mann wearable camera system which teaches the following: image processor is arranged to track the position and orientation of each person's head in three dimensions (fig. 1, col. 13, line 43 – col. 14, line 10).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following: image processor is arranged to track the position and orientation of each person's head in three dimensions as this arrangement would provide processed video for displaying, thus providing enhanced information to the user as taught by Mann.

5. Claims 11-12, 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natori in view of Riegel as applied to claims 1 and 19 above, and further in view of Brais et al. (US PAT: 5,995,935, filed 2-4-1997, hereinafter Brais).

Regarding claims 11-12, 29-30, the combination does not teach the following: sound processor for processing sound data defining words spoken by the people to generate text data therefrom in dependence upon the result of the processing performed by the speaker identifier, the sound processor has associated therewith a store for storing respective voice recognition parameters for each of the people, and parameter selector for selecting the voice recognition parameters to be used to process sound data in dependence upon the person determined to be speaking by the identified speaker.

However, Brais discloses report generation system which teaches the following: sound processor for processing sound data defining words spoken by the people to generate text data therefrom in dependence upon the result of the processing performed by the speaker identifier, the sound processor has associated therewith a store for storing respective voice recognition parameters for each of the people, and parameter selector for selecting the voice recognition parameters to be used to process sound data in dependence upon the person determined to be speaking by the identified speaker (col. 9 lines 25-30, col. 12 lines 54-67, col. 13 lines 39-42).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following: sound processor for processing sound data defining words spoken by the people to generate

text data therefrom in dependence upon the result of the processing performed by the speaker identifier, the sound processor has associated therewith a store for storing respective voice recognition parameters for each of the people, and parameter selector for selecting the voice recognition parameters to be used to process sound data in dependence upon the person determined to be speaking by the identified speaker as this arrangement would facilitate archiving information for latter use as taught by Brais, thus providing a record of information for future use.

6. Claims 40, 41-42, 44-45, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashida et al. (US PAT: 5,206,721, hereinafter Ashida) in view of Riegel.

Regarding claims 40-41, Ashida discloses image processing apparatus, comprising: means (49, fig. 4) for receiving image data recorded by a plurality of cameras (for example 48, fig. 4) showing movement of plurality of people (41-1 ... 41-4, fig. 4), speaker identification means (45, fig. 4) for determining which of the people is speaking (col. 6 lines 20-43; col. 1, line 29 – col. 2, line 30).

Ashida differs from claims 40-41, in that he does not teach the following: means for determining at whom the speaker is looking, means for determining the position of the speaker/object and position of the person at whom speaker is looking, and camera selection means for selecting image data from the received image data on the basis of the determined position and person/object at whom the speaker is looking.

However, Riegel teaches the following: means for determining at whom the speaker (reads on viewer B, fig. 1) is looking, means for determining the position of the

speaker/object and position of the person at whom speaker is looking, and camera selection means for selecting image data from the received image data on the basis of the determined position and person/object at whom the speaker is looking (fig. 1, abstract; pages 6-13 of English translation).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ashida's system to provide for the following: means for determining at whom the speaker is looking, means for determining the position of the speaker/object and position of the person at whom speaker is looking, and camera selection means for selecting image data from the received image data on the basis of the determined position and person/object at whom the speaker is looking as this arrangement would provide means for selecting the cameras to image the person/object observer is looking so that user can obtain information about the observed person/object for further use as taught by Riegel.

Regarding claims 42, 44, 45, the combination of Ashida and Riegel teaches the following: storage device for storing instructions for causing a programmable apparatus as set out in any one of the claims 39, 40, 41, as shown above.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 46, 48, and 50 are rejected under 35 U.S.C 102(b) as being anticipated by Riegel.

Regarding claim 46, Riegel discloses image processing system, comprising: an image data receiver (SD, fig. 1) operable to receive image data picked up by a plurality of cameras (Ka1...Kan, fig. 1), an object identifier (reads on head following unit: KVE, fig. 1) operable to determine an object in (DIS, fig. 1) at which a person is looking, an object position calculator in (KVE) operable to determine the positions of the object at which the person (for example P1, fig. 1) is looking and a camera selector (reads on S, fig. 1) operable to select image data from the image data picked up by the plurality of cameras at which the person is looking (figs. 1-2; pages 6-13 of English translation).

Regarding claim 48, Riegel discloses image processing apparatus, comprising: means (SD, fig. 1) for receiving image data picked up by a plurality of cameras (Ka1...Kan, fig. 1), means (KVE, fig. 1) for determining an object (displayed on DIS, fig. 1) at which person is looking, and means (S, fig. 1) for selecting image data from the image data picked up the plurality of cameras on the basis of the determined position at which person is looking (figs. 1-2; pages 6-13 of English translation).

Claim 50 is rejected on the same basis as claim 48.

9. Claims 47, 49, 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riegel in view of Anderson.

Regarding claims 47, 49, and 51, Riegel does not teach the following: object is a another person.

However, Anderson teaches the following: object is a another person (col. 2 lines 65-67).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Riegel's system to provide for the following: object is a person as this arrangement would provide more realistic arrangement for video conferees during a video conference so that conferees would have eye contact during the conference as taught by Anderson.

Regarding claims, 52, 53, the combination of Riegel and Anderson teaches the following: storage device for storing instructions for causing a programmable apparatus as set out in any one of the claims 50 or 51 as shown above.

10. Claims 3-6, 13-17, 21-24, 31-35, 37-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's arguments filed on 1-30-2006 have been fully considered but they are not persuasive.

Rejection of Claims 1,10, 18, 19, 28, 36, 39, 43 under 35 U.S.C. 103(a) as being unpatentable over Natori (EP 0356105) in view of Riegel: regarding rejection of independent claims 1, 18, 19, 39, Applicant argues that, after referring to teachings of Natori and Riegel and especially referring to Riegel, "In the Riegel system, as understood by Applicants, the observer is merely looking at an image on a stereoscopic

screen (DIS), the image is produced by plurality of cameras recording ... the system of Riegel has no requirement to determine "at whom the speaker is looking". In contradistinction to the apparatus recited in claim 1, wherein camera selector selects image data from the received image data on the basis of both the determined position of the speaker and determined position at whom speaker is looking, the system of Riegel ...Applicants submit that nothing has been found in Riegel that would discloses or suggest a camera selector for selecting image data from the received image data on the basis of the determined positions of the speaker and the person at whom the speaker is looking". Regarding this, Riegel teaches head following unit KVE (fig. 1) which tracks the head of the speaker (reads on viewer B, fig. 1) looking at the screen (DIS). In the head following unit KVE, the head position of Pj of viewer B is determined 1 and horizontal movements of the viewer B with respect to the screen (DES, fig. 1) are followed. He further teaches the following: In case a realistic transmission is desired, it is advantageous to set up the cameras Kai equidistant from each eye, which in this case means that the distance between the head position P1 and the head position Pn-1 would be same as the distance between the camera Ka1 and the camera Kan-1. the necessary camera signals can then be selected and transmitted, depending on the position of Viewer B looking at DIS screen which displays camera images (pages 9-13 of English translation). Based on this, Riegel clearly teaches selecting camera signals based on what the speaker (reads on viewer) is looking at the object on the DIS screen. Further primary reference teaches speaker detection and selection of camera signals based on this (col. 1, line 27-col. 2, line 1). Therefore one of ordinary skill in the art at

the time invention was made would be able to arrive at applicant's invention as set forth in the office action.

Regarding rejection of independent claim 40 over Ashida et al. (US PAT: 5,206,721, hereinafter Ashida) in view of Riegel, Applicant makes similar kind of arguments as made with respect to claim 1. Explanation provided therein is applicable to claim 40.

In light of above explanation, rejection of claims1-2, 7-12, 18-20, 25-30, 36, 39-53 are maintained.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (571)272-8098. The examiner can normally be reached on 9 Hr schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Melur Ramakrishnaiah
Primary Examiner
Art Unit 2614